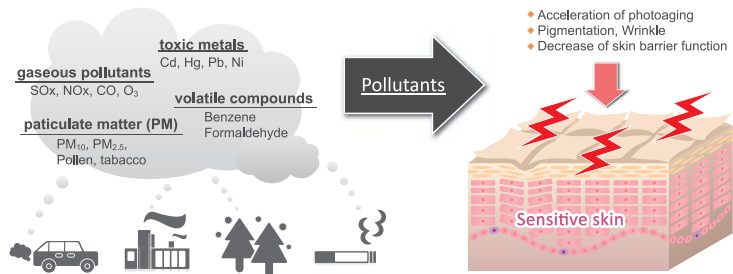


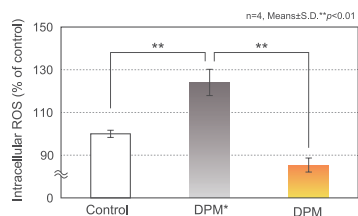
Anti-pollution effect

About pollution in air

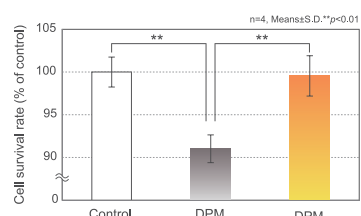
Skin is the first protection against environmental stimulus. Although UV radiation is best known, other sources such as pollution have become topics of concern. Environmental contamination, mainly air pollution can affect human skin as stimulus and lead to sensitive skin.



Evaluation of intracellular ROS production



Evaluation of cell survival rate



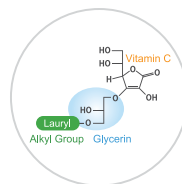
*DPM: Diesel Particulate Matter (DPM: 1 μg/mL) + Amitose 3LGA (10 μmol/L)

Amitose 3LGA exerts anti-pollution effect by suppressing ROS production caused by pollution and protecting cell.

Amitose 3LGA Product information

Preservative free

INCI name	Composition
3-Laurylglyceryl Ascorbate	10%
Butylene Glycol	90%



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Data appear on this catalog are actual obtained values by our experimental procedures, but not the specification values. Upon the use of the material on this catalog, please verify the functions, effects and safety of the materials in your company's using conditions. SEIWA KASEI cannot guarantee that the applications, which are introduced in this catalog, never interfere with any patents. For certain reasons, the information of this catalog may be changed without notice.

3rd edition April 3, 2018

CERAMIDE PROMOTER

Amitose 3LGA

3-Laurylglyceryl Ascorbate

The vitamin C derivative
that improves your skin
from the surface and inside of the skin

Revive your skin's
natural beauty



SEIWA

About skin type

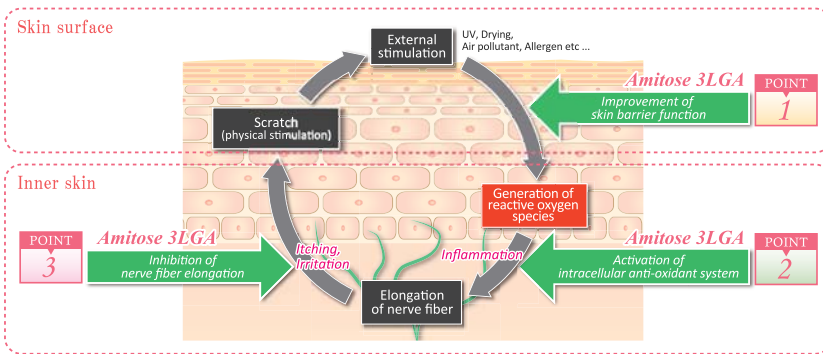
The human skin surface possesses barrier functions that regulate water transpiration and bring protection from extrinsic stresses. Furthermore, there also exist inside the skin antioxidant functions that eliminate reactive oxygen species (ROS), hampering further skin conditions such as inflammation. If these surface and internal of skin functions declined, the skin function would be impaired and eventually become "sensitive skin" with high sensitivity against extrinsic stresses.



Amitose 3LGA Improving skin by essential power of skin

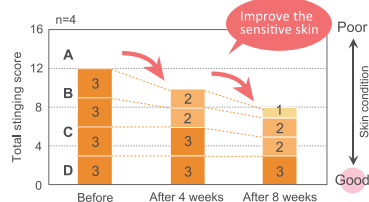
Amitose 3LGA is a vitamin C derivative that improves skin function from **inner** and **outer** skin.

The 3 points of skin improving effect by Amitose 3LGA



Verification test; Skin improving effect *in vivo* test

Stinging test



Stinging score
 1 Not feel at all
 2 Feel anything slightly
 3 Feel weak stimulation
 4 Feel strong stimulation
 5 Feel stimulation which volunteer can't stand on cheek

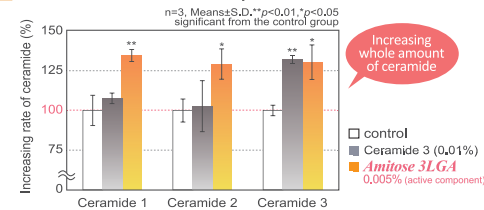
[Experimental method]
 O/W emulsion cream containing 1.0% Amitose 3LGA (0.1% as active component) was applied on the cheek twice a day in the morning and evening for 8 weeks (n=4). As stinging test, 0.25% methyl paraben was treated to subjects and the stinging level was quantified by using stinging score.

Amitose 3LGA improves the sensitive skin from inner and outer of skin.

POINT 1 Verification

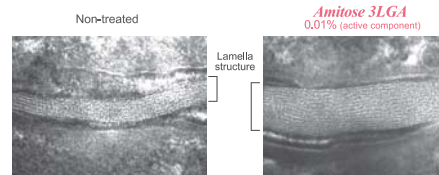
1 Activation of ceramide synthesis

Evaluation of 3 kinds of ceramide synthesis (human 3D skin model)



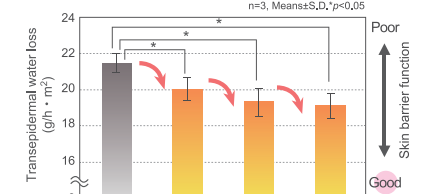
Increasing whole amount of ceramide

Observation of lamella structure of stratum corneum (human 3D skin model)



Improvement of skin barrier function

Evaluation of transepidermal water loss (human 3D skin model)



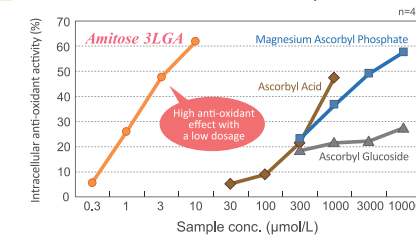
Ceramide production ratio: 1.0, 1.1, 1.6, 1.8

Amitose 3LGA restores skin barrier functions by activating ceramide synthesis and lamella structure of stratum corneum is thickened.

POINT 2 Verification

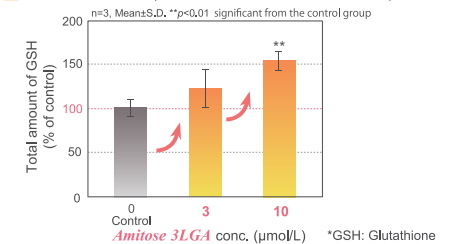
2 Elimination of intracellular reactive oxygen species

Evaluation of intracellular anti-oxidant activity



High anti-oxidant effect with a low dosage

Evaluation of GSH* (intracellular anti-oxidative substance) contents

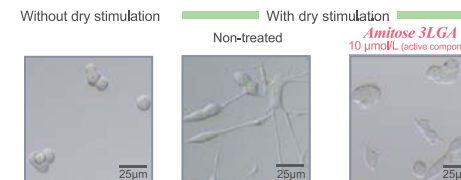


Amitose 3LGA shows an excellent anti-oxidant effect by activating the production of intracellular anti-oxidative substances.

POINT 3 Verification

3 Inhibition of nerve fiber elongation

Observation of nerve cell (under dry condition)



Inhibiting rate 48.5%

Production amount of Inflammatory material (IL-1α) 25% DOWN

Production amount of nerve growth factor (NGF) 25% DOWN

Amitose 3LGA inhibits nerve fiber elongation by suppressing oxidative stresses such as dry stimulation.